

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) An electronic camera, comprising:
an imaging device which images a subject with an exposure value that is lower than a normal exposure value for a desired reproducing so as to acquire image data with an acquiring imaging luminance range wider than a reproducing luminance range on at least one of displaying and printing; and
a recording device which records an information indicating that the acquired image data is imaged with the acquiring imaging luminance range that is wider than the reproducing luminance range along with the image data acquired by the imaging device.
2. (Previously Presented) The electronic camera as set forth in claim 1, wherein the acquiring imaging luminance range is at least two and at most six times as wide as the reproducing luminance range.
3. (Cancelled)
4. (Cancelled)
5. (Previously Presented) The electronic camera as set forth in claim 34, wherein the recording device records the first-order coefficient of the linear function as attached information for the converted image data in the same image file as the converted image data.
6. (Previously Presented) The electronic camera as set forth in claim 5, wherein the recording device records the image file in one of a directory and a folder provided for each form of conversion.
7. (Cancelled)

8. (Previously Presented) The electronic camera as set forth in claim 35, wherein the recording device records the at least one of the base, the first-order coefficient and the zero-order coefficient of the logarithmic function as attached information for the converted image data in the same image file as the converted image data.

9. (Previously Presented) The electronic camera as set forth in claim 8, wherein the recording device records the image file in one of a directory and a folder provided for each form of conversion.

10. (Previously Presented) The electronic camera as set forth in claim 33, wherein the predetermined function is a combination of a linear function and a logarithmic function,

wherein the recording device records information that represents a relationship between the image data and digital values of the converted image data to be recorded while dividing the relationship into an area where the relationship is represented by the logarithmic function and an area where the relationship is represented by the linear function, and

wherein the recording device records at least one of a base, a first-order coefficient and a zero-order coefficient of the logarithmic function and at least a first-order coefficient of the linear function.

11. (Previously Presented) The electronic camera as set forth in claim 10, wherein the recording device records the at least one of the base, the first-order coefficient and the zero-order coefficient of the logarithmic function and the first-order coefficient of the linear function as attached information for the converted image data in the same image file as the converted image data.

12. (Previously Presented) The electronic camera as set forth in claim 11, wherein the recording device records the image file in one of a directory and a folder provided for each form of conversion.

13. (Original) The electronic camera as set forth in claim 1, wherein the recording device converts output voltage values from photoelectric converting devices with a filter arrangement of R, G, B and G of a CCD into digital values and records the digital values.

14. (Cancelled)

15. (Previously Presented) The electronic camera as set forth in claim 1, further comprising a mode switching device which switches between a normal imaging mode in which the subject is imaged with substantially the same luminance range as the reproducing luminance range and a wide luminance range imaging mode in which the subject is imaged with the acquiring imaging luminance range that is wider than the reproducing luminance range.

16. (Previously Presented) The electronic camera as set forth in claim 15, wherein: the subject is imaged with a normal exposure value obtained from normal photometry in the normal imaging mode; and

the subject is imaged with an exposure value lower than the normal exposure value in the wide luminance range imaging mode, the exposure value being calculated based on the normal exposure value obtained by the normal photometry.

17. (Previously Presented) The electronic camera as set forth in claim 1, wherein the recording device records the image data with substantially the same luminance range as the reproducing luminance range and records the image data with the acquiring imaging luminance range that is wider than the reproducing luminance range at one time.

18. (Original) The electronic camera as set forth in claim 17, wherein: the imaging device images the subject with an exposure value of a case in which the subject is imaged with the imaging luminance range that is wider than the reproducing luminance range; and

the recording device converts the image data acquired by the imaging device with the exposure value so that the luminance range of the converted image data is substantially the same as the reproducing luminance range.

19-30. (Cancelled)

31. (Currently Amended) An electronic image recording and reproducing system, comprising:

an imaging device which images a subject with an exposure value that is lower than a normal exposure value for a desired reproducing so as to acquire first imaged data with an acquiring luminance range wider than a reproducing luminance range on at least one of displaying and printing;

a recording device which records the first imaged data acquired by the imaging device and luminance range information indicating that the acquiring luminance range is wider than the reproducing luminance range;

a reading device which reads the first image data with the acquiring luminance range and reads the luminance range information;

a signal processing device which produces, from the first image data with the recording luminance range, second image data with a luminance range required for reproducing according to the luminance range information; and

a reproducing device comprising at least one of:

a displaying device which displays the second image data as a visible image; and

a printer which prints the second image data as the visible image.

32. (Previously Presented) The electronic camera as set forth in claim 1, wherein the recording device further records an information indicating maximum reflectance set in the electronic camera.

33. (Previously Presented) The electronic camera as set forth in claim 1, wherein the recording device converts the image data acquired by the imaging device with a predetermined function, records the converted image data, and further records information on the predetermined function.

34. (Previously Presented) The electronic camera as set forth in claim 33, wherein the predetermined function is a linear function, and wherein the recording device records information that represents a relationship between the image data and digital values of the converted image data to be recorded by the linear function and records at least a first-order coefficient of the linear function.

35. (Previously Presented) The electronic camera as set forth in claim 33, wherein the predetermined function is a logarithmic function, and wherein the recording device records information that represents a relationship between the image data and digital values of the converted image data to be recorded by the logarithmic function and records at least one of a base, a first-order coefficient and a zero-order coefficient of the logarithmic function.

36. (Previously Presented) The electronic camera as set forth in claim 15, wherein the recording device records the image data acquired by the imaging device into a directory or a folder corresponding to the imaging mode switched by the mode switching device.

37. (Currently Amended) An electronic camera for recording image data obtained by imaging a subject, comprising:

an imaging device having a normal imaging mode in which the subject is imaged with a normal luminance range required in reproducing or printing or both and having a wide luminance range imaging mode in which the subject is imaged with a wide imaging luminance range wider than the normal luminance range required in reproducing or printing or both, wherein the , the imaging device for imaging the subject according to at least one of the normal imaging mode and

the wide luminance imaging mode, wherein the imaging device having a wide luminance range imaging mode images the subject with an exposure value that is lower than a normal exposure value for a desired reproducing; and

a recording device for recording the image data acquired by the imaging device into a directory or a folder corresponding to one of the normal imaging mode and the wide luminance imaging mode.

38. (Previously Presented) The electronic camera as set forth in claim 37, further comprising a mode switching device which switches between the normal imaging mode and the wide luminance imaging mode.

39. (Previously Presented) The electronic camera as set forth in claim 1, wherein the recording device records the information indicating that the acquired image data is imaged with the acquiring imaging luminance range that is wider than the reproducing luminance range separately from the image data.

40. (Previously Presented) The electronic camera as set forth in claim 39, wherein the recording device records the information indicating that the acquired image data is imaged with the acquiring imaging luminance range that is wider than the reproducing luminance range in a same file as the image data.

41. (Previously Presented) The electronic camera as set forth in claim 31, wherein the recording device records the luminance range information separately from the second image data.

42. (Previously Presented) The electronic camera as set forth in claim 41, wherein the recording device records the luminance range information in the same file as the second image data.

43. (Currently Amended) The electronic camera as set forth in claim 37, wherein the recording device records an ~~the~~ information indicating whether the subject is imaged in the normal luminance mode or imaged in the wide luminance range imaging mode, and wherein the information is recorded separately from the image data.

44. (Previously Presented) The electronic camera as set forth in claim 43, wherein the recording device records the information indicating whether the subject is imaged in the normal luminance mode or imaged in the wide luminance range imaging mode in the same file as the image data.

45. (Previously Presented) The electronic camera as set forth in claim 37, wherein when the electronic camera is in the wide luminance range imaging mode, the imaging device images the subject in both the normal luminance range and the wide imaging luminance range.

46. (Previously Presented) The electronic camera as set forth in claim 45, wherein when the electronic camera is in the wide luminance range imaging mode, the recording device records the image data of the imaged subject with the normal luminance range and records the image data of the imaged subject with the wide imaging luminance range.

47. (Previously Presented) The electronic image recording and reproducing system as set forth in claim 31,

wherein the imaging device acquires the first image data by converting initially imaged data with a gradation conversion function,

wherein the recording device records information specifying the gradation conversion function along with the second image data, and

wherein the signal processing device produces the second image data also based on the recorded gradation conversion function.

48. (Previously Presented) The electronic image recording and reproducing system as set forth in claim 47,

wherein the imaging device images the subject with an exposure value,

wherein the recording device records information specifying the exposure value used to image the subject, and

wherein the signal processing device produces the second image data also based on the exposure value.

49. (Previously Presented) The electronic image recording and reproducing system as set forth in claim 48, wherein the gradation conversion function used by the imaging device is based on the exposure value used to subject the image.

50. (Currently Amended) An electronic camera, comprising:

an imaging device configured to image a subject in a luminance mode to generate raw image data,

wherein the luminance mode is one of at least a first luminance mode and a second luminance mode,

wherein in the first luminance mode, the imaging device images the subject in a first luminance range, ~~and~~

wherein in the second luminance mode, the imaging device images the subject in a second luminance range different than the first luminance range; and

wherein in at least one of the first luminance mode and the second luminance mode, the imaging device images the subject with an exposure value that is lower than a normal exposure value for a desired reproducing;

a processing device configured to generate converted image data by processing the raw image data based on the luminance mode of the raw image data; and

a recording device configured to record the converted image data in a storage area and configured to record the luminance mode of the raw image data in the storage area separately from the converted image data.

51. (Previously Presented) The electronic camera as set forth in claim 50, wherein the recording device records the converted image data and the luminance mode of the raw image data in a same file as the converted image data.

52. (Previously Presented) The electronic camera as set forth in claim 50, wherein the first luminance range is wider than a luminance range of an image reproducing device and the second luminance range is substantially the same as the luminance range of the reproducing device.

53. (Previously Presented) The electronic camera as set forth in claim 50, wherein the processing device comprises:

a gradation conversion device configured to convert the raw image data to the converted image data based on a gradation conversion function,

wherein the recording device is configured to record the gradation recording function in the storage area in a same file as the converted image data.

54. (Previously Presented) The electronic camera as set forth in claim 53, wherein the first luminance range is wider than the second luminance range and gradation conversion device configured to convert the raw image data to the converted image data based on the gradation conversion function when the electronic camera is in the first luminance mode.

55. (Previously Presented) The electronic camera as set forth in claim 53, wherein the gradation conversion function is a relationship between digital values of the converted image data and reflectance values of the imaged subject.

56. (Previously Presented) The electronic camera as set forth in claim 55, wherein the relationship between the digital values of the converted image data and the reflectance values of

the imaged subject includes a linear relationship, a logarithmic relationship, or both.

57. (Previously Presented) The electronic camera as set forth in claim 56, wherein the recording device is configured to record a first-order coefficient of the linear relationship in the same file as the converted image data, to record a base, a first-order coefficient, and a zero-order coefficient of the logarithmic relationship in the same file as the converted image data, or both.

58. (Previously Presented) The electronic camera as set forth in claim 53, wherein the imaging device is configured to image the subject with one of a plurality of exposure values, wherein the gradation conversion device is configured to use the gradation conversion function from a plurality of gradation conversion functions based on the particular exposure value used by the imaging device, and

wherein the recording device is configured to record the exposure value used by the imaging device in the same file as the converted image data.